

Claims:

1 1. A system for a magnetic head arm assembly (HAA) comprising:
2 a head gimbal assembly (HGA) with an HGA mating portion;
3 a flexible printed circuit (FPC) assembly with an FPC mating portion; and
4 an actuator coil assembly with a first mating portion and a second mating portion;
5 wherein
6 each of said HGA, said FPC assembly, and said actuator coil assembly being
7 manufactured independent of one another;
8 said HGA mating portion is to be coupled to said actuator coil assembly first mating
9 portion; and
10 said FPC mating portion is to be coupled to said actuator coil assembly second mating
11 portion.

1 2. The system of claim 1, wherein said actuator coil assembly first mating portion and
2 second mating portion each have substantially smooth interface surfaces, and wherein said HGA
3 mating portion and FPC mating portion each have substantially smooth interface surfaces.

1 3. The system of claim 2, wherein said actuator coil assembly first mating portion and
2 second mating portion each have substantially flat interface surfaces, and wherein said HGA
3 mating portion and FPC mating portion each have substantially flat interface surfaces.

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1 4. The system of claim 3, wherein said actuator coil assembly first mating portion is
2 recessed and contoured to interface said HGA mating portion and wherein said actuator coil
3 assembly second mating portion is contoured to interface said FPC mating portion.

1 5. The system of claim 3, wherein said HGA is a unimount HGA.

1 6. The system of claim 5, wherein at least one of said HGA, said FPC assembly, and said
2 actuator coil assembly is manufactured by injection molding.

1 7. The system of claim 6, wherein said unimount HGA includes a unimount baseplate
2 containing said HGA mating portion, a multi-piece loadbeam, a flex-suspension assembly (FSA)
3 trace, and a slider device.

1 8. The system of claim 7, wherein said FPC assembly includes a plastic bracket, a metal
2 bracket containing said FPC mating portion, and a flexible printed circuit.

1 9. The system of claim 8, wherein said actuator coil assembly includes a coil and an
2 actuator body containing said first and second mating portions.

1 10. A method for manufacturing a magnetic head arm assembly (HAA) comprising:
2 providing a head gimbal assembly (HGA), said HGA having an HGA mating portion;
3 providing a flexible printed circuit (FPC) assembly, said FPC having an FPC mating
4 portion;

5 providing an actuator coil assembly, said actuator coil assembly having a first mating
6 portion and a second mating portion, wherein each of said HGA, FPC assembly, and actuator
7 coil assembly is manufactured independently from each other;
8 coupling said HGA mating portion to said actuator coil assembly first mating portion;
9 and
10 coupling said FPC mating portion to said actuator coil assembly second mating portion.

1 11. The method of claim 10, wherein said actuator coil assembly first mating portion and
2 second mating portion each have substantially smooth interface surfaces, and wherein said HGA
3 mating portion and FPC mating portion each have substantially smooth interface surfaces.

1 12. The method of claim 11, wherein said actuator coil assembly first mating portion and
2 second mating portion each have substantially flat interface surfaces, and wherein said HGA
3 mating portion and FPC mating portion each have substantially flat interface surfaces.

1 13. The method of claim 12, wherein said actuator coil assembly first mating portion is
2 recessed and contoured to interface said HGA mating portion and wherein said actuator coil
3 assembly second mating portion is contoured to interface said FPC mating portion.

1 14. The method of claim 12, wherein at least one of said HGA, said FPC assembly, and said
2 actuator coil assembly is manufactured by injection molding.

1 15. The method of claim 14, wherein said HGA is a unimount HGA.

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1 16. The method of claim 15, wherein said unimount HGA includes a unimount baseplate
2 containing said HGA mating portion, a multi-piece loadbeam, a flex-suspension assembly (FSA)
3 trace, and a slider device.

1 17. The method of claim 16, wherein said FPC assembly includes a plastic bracket, a metal
2 bracket containing said FPC mating portion, and a flexible printed circuit.

1 18. The method of claim 17, wherein said actuator coil assembly includes a coil and an
2 actuator body containing said first and second mating portions.

1 19. The method of claim 18, wherein said FPC is coupled to said actuator body by rivet
2 deformation.

1 20. The method of claim 18, wherein said FPC is coupled to said actuator body by adhesive
2 bonding.

1 21. The method of claim 18, wherein said FPC is coupled to said actuator body by solder
2 bonding.

1 22. The method of claim 18, wherein said coil is coupled to an FPC trace by solder bonding.

1 23. The method of claim 18, wherein said coil is coupled to an FPC trace by stitch bonding.

1 24. The method of claim 18, wherein said HGA assembly is coupled to said FPC assembly
2 by adhesive bonding.

1 25. The method of claim 18, wherein said HGA assembly is coupled to said FPC assembly
2 by rivet deformation.

1 26. The method of claim 18, wherein said HGA assembly is coupled to said FPC assembly
2 by screw mounting.

1 27. The method of claim 18, wherein said FSA trace is coupled to a bonding pad of said FPC
2 assembly by tape automated bonding (TAB).

1 28. The method of claim 18, wherein said FSA trace is coupled to a bonding pad of said FPC
2 assembly by anisotropic conductive film (ACF) bonding.

1 29. The method of claim 18, wherein said multi-piece loadbeam is coupled to said unimount
2 baseplate by laser welding.

1 30. The method of claim 18, wherein said FSA trace is coupled to said HGA assembly by
2 ultra-violet (UV) epoxy bonding.

1 31. The method of claim 18, wherein said FPC assembly is coupled to said metal bracket by
2 lamination.

1 32. The method of claim 18, wherein said FPC assembly is coupled to said plastic bracket by
2 pin insertion.

1 33. The method of claim 18, wherein said coil is coupled to said actuator body by epoxy.

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